

WHAT IS CLAIMED IS:

1. For use in removably retaining an excavating device wear member on an associated support structure portion having a connector opening therein, a connector pin assembly comprising:

a hollow body longitudinally extending along an axis and being receivable in the connector opening, said hollow body having an outer end through which a pin opening axially extends;

a connector pin member having a cylindrical body portion coaxially received in said pin opening, and an outer end portion projecting outwardly beyond said outer end of said hollow body and having, relative to said cylindrical body portion, a laterally reduced cross-section, said connector pin member being rotatable relative to said hollow body through a predetermined arc between locking and unlocking positions;

and

a biasing structure operative to resiliently bias said connector pin member rotationally toward said locking position throughout a major portion of said predetermined arc.

2. The connector pin assembly of Claim 1 wherein:

said major portion of said predetermined arc is approximately 50 percent thereof.

3. The connector pin assembly of Claim 1 wherein:

said biasing structure is further operative to resiliently bias said connector pin member rotationally toward said unlocking position throughout essentially the entire balance of said predetermined arc.

4. The connector pin assembly of Claim 1 wherein:

said biasing structure is further operative to blockingly preclude axial removal of said connector pin member from said hollow body when said connector pin member is rotationally positioned at any location within said predetermined arc.

5. The connector pin assembly of Claim 1 wherein:

said connector pin member has a laterally inset longitudinally intermediate portion with a lobed cross-sectional configuration.

6. The connector pin assembly of Claim 5 wherein:

said biasing structure includes a force exerting member resiliently biased into engagement with said longitudinally intermediate portion.

7. The connector pin assembly of Claim 5 wherein:

said hollow body has an interior side surface recess facing said longitudinally intermediate portion, and

said biasing structure includes a force exerting member, and a biasing member disposed in said interior side surface recess and resiliently biasing said force exerting member into engagement with said longitudinally intermediate portion.

8. The connector pin assembly of Claim 7 wherein:

said biasing member is an elastomeric member.

9. The connector pin assembly of Claim 7 wherein:

said hollow body has a longitudinally extending lateral lobe portion.

10. The connector pin assembly of Claim 9 wherein:
said interior side surface portion is formed in said lobe portion of
said hollow body.

5 11. The connector pin assembly of Claim 1 wherein:
said predetermined arc is approximately 120 degrees.

12. The connector pin assembly of Claim 1 further comprising:
a seal structure operably interposed between an outer side surface
10 portion of said cylindrical body portion of said connector member and
said hollow body.

13. The connector pin assembly of Claim 1 wherein:
said outer end portion of said connector pin member is laterally
15 offset from said axis.

14. The connector pin assembly of Claim 13 wherein:
said outer end portion of said connector pin member has a
noncircular cross-section.

20 15. The connector pin assembly of Claim 1 wherein:
said outer end portion of said connector pin member has a
noncircular cross-section.

16. For use in removably retaining an excavating device wear member on an associated support structure portion having a connector opening therein, a connector pin member extending along an axis and comprising:

- 5 a pair of cylindrical end portions spaced apart along said axis, each end portion having an outer end surface from which a locking structure outwardly projects parallel to said axis and has, relative to its associated cylindrical end portion, a laterally reduced cross-section; and
- 10 a longitudinally intermediate portion axially extending between and joining said cylindrical end portions, said longitudinally intermediate portion having, relative to said cylindrical end portions, a laterally reduced cross-section with a lobed configuration.

17. The connector pin member of Claim 16 wherein:

15 each of said locking structures is laterally offset from said axis.

18. The connector pin member of Claim 17 wherein:

 each of said locking structures has a noncircular cross-section.

19. The connector pin member of Claim 16 wherein:

20 each of said locking structures has a noncircular cross-section.

20. Excavating apparatus comprising:

a support structure having a projecting portion onto which a wear member may be placed to shield said projecting portion from wear, said projecting portion having an exterior side surface through which a connector opening inwardly extends; and

a connector structure carried by said projecting portion of said support structure and operative to releasably retain the wear member on said projecting portion, said connector structure including:

a hollow body extending along an axis and being axially received in said connector opening, said hollow body having an outer end through which a pin opening axially extends,

a connector pin member having a cylindrical body portion coaxially received in said pin opening, and an outer end portion projecting outwardly beyond said outer end of said hollow body and said exterior side surface of said projecting portion of said support structure, said outer end of said connector pin member having, relative to said cylindrical body portion, a laterally reduced cross-section, said connector pin member being rotatable relative to said hollow body through a predetermined arc between locking and unlocking positions, and

a biasing structure operative to resiliently bias said connector pin member rotationally toward said locking position throughout a major portion of said predetermined arc.

21. The excavating apparatus of Claim 20 wherein:

said support structure is an adapter, and said projecting portion is a nose portion of said adapter.

22. The excavating apparatus of Claim 20 wherein:
said hollow body and said connector opening have noncircular cross-sections along their axial lengths.

5 23. The excavating apparatus of Claim 20 wherein:
said major portion of said predetermined arc is approximately 50 percent thereof.

10 24. The excavating apparatus of Claim 20 wherein:
said biasing structure is further operative to resiliently bias said connector pin member rotationally toward said unlocking position throughout essentially the entire balance of said predetermined arc.

15 25. The excavating apparatus of Claim 20 wherein:
said biasing structure is further operative to blockingly preclude axial removal of said connector pin member from said hollow body when said connector pin member is rotationally positioned at any location within said predetermined arc.

20 26. The excavating apparatus of Claim 20 wherein:
said connector pin member has a laterally inset longitudinally intermediate portion with a lobed cross-sectional configuration.

25 27. The excavating apparatus of Claim 26 wherein:
said biasing structure includes a force exerting member resiliently biased into engagement with said longitudinally intermediate portion.

28. The excavating apparatus of Claim 26 wherein:

said hollow body has an interior side surface recess facing said longitudinally intermediate portion, and

5 said biasing structure includes a force exerting member, and a biasing member disposed in said interior side surface recess and resiliently biasing said force exerting member into engagement with said longitudinally intermediate portion.

29. The excavating apparatus of Claim 28 wherein:

10 said biasing member is an elastomeric member.

30. The excavating apparatus of Claim 26 wherein:

said hollow body has a longitudinally extending lateral lobe portion.

15 31. The excavating apparatus of Claim 30 wherein:

said interior side surface portion is formed in said lobe portion of said hollow body.

32. The excavating apparatus of Claim 20 wherein:

20 said predetermined arc is approximately 120 degrees.

33. The excavating apparatus of Claim 20 further comprising:

a seal structure operably interposed between an outer side surface portion of said cylindrical body portion of said connector member and
25 said hollow body.

34. The excavating apparatus of Claim 20 wherein:
said outer end portion of said connector pin member is laterally
offset from said axis.

5 35. The excavating apparatus of Claim 34 wherein:
said outer end portion of said connector pin member has a
noncircular cross-section.

10 36. The excavating apparatus of Claim 20 wherein:
said outer end portion of said connector pin member has a
noncircular cross-section.

15 37. The excavating apparatus of Claim 20 further comprising:
a wear member disposed on said projecting portion of said support
structure and captively and removably retained thereon by said connector
structure.